Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Devon Energy Production Company, L.P.
Well Name/Number: Hempel 9-1
Location: NE NE Section 9 T26N R17E
County: Chouteau **, MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: No, 3 to 4 days
Unusually deep drilling (high horsepower rig): No, 2500' TD using a small single derrick drilling rig.
Possible H2S gas production: None anticipated.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: No special concerns – using small rig to drill to 2500'TD.

Water Quality

(possible concerns)
Salt/oil based mud: No, freshwater and freshwater mud system.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest drainage is unnamed ephemeral tributary drainage to Little Sand Creek, about 1/16 of a mile to the northwest from this location.
Water well contamination: None, closest water well is about 3/8 of a mile to the east from this location. Depth of this water well is 23'. This gas well test will drill surface hole with freshwater to a depth of about 150' and will set steel surface casing at 150' and cement to surface to protect shallow groundwaters.
Porous/permeable soils: No, sandy silty soils.
Class I stream drainage: No Class I stream drainages in the area.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____
Comments: 150' of surface casing cemented to surface adequate to protect freshwater zones. If productive, 4 ½" casings will be run, casing will be cemented to surface. Also, fresh water mud systems to be used.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No stream crossings anticipated, only ephemeral drainages.
High erosion potential: No, moderate cut, up to 19.0' and small fill, up to 6.0, required.
Loss of soil productivity: No, location will be restored after drilling, in nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 250'X250' location size required.
Damage to improvements: Slight, surface use is grass land.
Conflict with existing land use/values: Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, Warrick Road. About 1/2 of a mile of new access will be created to access this location off the Warrick County Road. Cuttings will be disposed of in the unlined earthen pits. Drilling fluids will be trucked to nearby stock pond and disposed of with surface owner approval. Pit will be allowed to dry then backfilled. No special concerns

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residence is about 5/8 of a mile to the southeast and ¾ of a mile to the northwest from this location.
Possibility of H2S: No H2S anticipated.
Size of rig/length of drilling time: Small drilling rig/short 3 to 4 days drilling time

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Upper Missouri River Breaks National Monument boundaries about 13 miles east and 18 miles south of this location.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No
Threatened or endangered Species: Listed threatened or endangered species on the USFW Region 6 website are the Pallid Sturgeon and the Black footed Ferret. Species of concern is the Greater Sage Grouse.

Mitigation:

__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____
Comments: Private surface lands not adjacent to live water. No concerns.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified.
Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: Private surface lands. No concerns.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns

Remarks or Special Concerns for this site

Well is a 2500'TD Eagle Formation test south side of Bear Paw Mountains

Summary: Evaluation of Impacts and Cumulative effects

No, long term impacts expected, some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: May 18, 2010

Other Persons Contacted:

_Montana Bureau of Mines and Geology, GWIC website._____
(Name and Agency)
Chouteau County water wells
_____
(subject discussed)
__May 18, 2010_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Chouteau County
(subject discussed)

May 18, 2010
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____